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ABSTRACT

The paper reports findings of a study describing and analyzing the creative and social behavior of four highly original children in the context of 1 year's preschool experience. Videotape, interview, participant observation, and artifact data were collected to construct the descriptions. The study attempted to answer the following questions: (1) Do young children identified as highly original by the "Starkweather Originality Test" also demonstrate originality in play and products? (2) Are common patterns of play choice demonstrated by highly original children? (3) Were there similar identifiable creative characteristics among the four children? (4) Were there characteristics of social competence evident among the children? (5) What strategies did each child use to satisfy social goals? (6) Were there common patterns of peer social behavior among the children? Each of the children is described in terms of demographic characteristics, creative characteristics, and social characteristics. Conclusions indicate that all four children had high levels of inner imagination, that each of them had a speciality area for creative expression, and that all four children were independent, persistent, fluent with ideas, and expressively elaborate. Socially, all four had different levels of social competence and used different patterns of social behavior. (DB)

A DESCRIPTIVE STUDY OF THE CREATIVE AND SOCIAL BEHAVIOR OF FOUR HIGHLY ORIGINAL YOUNG CHILDREN

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Introduction

Piaget (1952) described cognitive development as continuous creative structuring. Young children especially seem to be constantly creative, discovering new understandings about their world through a process similar to the one scientists use in making discoveries (Westcott in Taylor, 1964). They have a gift of discovery and an openness to experience that relates to the personality styles of creative adults (Golann, 1962; Schactel, 1959). Theorists believe that the origins of creative thinking are in early childhood (Almy, Chittenden, & Miller 1966) with imaginative play being an important predecessor of later creative thinking (Isaacs, 1966; May, 1959).

Recent research suggests that preschool children are very creative. Moran, Milgram, Sawyers, and Fu (1983) found that preschool children gave a greater proportion of original responses on ideational fluency measures than any group they investigated through young adulthood. Johnson (1985) also found that young children score well on tests of creative potential, especially in verbal fluency, flexibility, and originality, as well as figural fluency.

Shmukler's (1982) work with preschool children has led to the development of a three-component model of creativity in young children. One component is inner imagination which is closely related to the originality aspect of tested creativity. The second component is expressive imagination or play behavior that is an expression of creativity. The last component is social competence which reflects an outward social facility. Shmukler views inner imagination

as the input mode of her model, with expressive imagination and social competence being the output mode. She argues that a young child's motivation and striving for mastery make up the driving force that elaborates the inner component in expressive and social behavior. These components of creativity seem related to Lieberman's (1977) cognitive, physical, and social facets of imagination. So it appears that there is a relationship between the cognitive, "inner" aspect of creativity and an "outer" expression of creativity that may take many forms, including social behavior.

The social development of young children is strongly influenced by their experiences with peers. Important social lessons may be learned only in interactions with others of relatively equal social status; i.e., other children. Young children's interaction in educational settings provides opportunities to acquire knowledge of social rules and to practice social skills necessary for a lifetime of social encounters.

Research examining children's social behavior with peers in preschool and kindergarten settings indicates that some children are more successful than others in interactions with peers (see reviews by Hatch, 1984; Moore, 1981). Popular or socially competent children are adept at delivering "social reinforcements;" they praise, smile, show affection, give or accept gifts, comply with requests, and pay attention to peers more frequently then less popular children (Charlesworth & Hartup, 1967; Masters & Furman, 1981). Further, more successful children demonstrate broader ranges of social strategies and better developed abilities to differentiate rules of specific contexts and statuses of various actors than less successful peers (Krasnor, 1982). Aggression is usually negatively associated with popularity (Masters & Furman, 1981).

Corsaro (1981) studied preschool social interactions and characterized them as brief (most lasting less than ten minutes) and unstable; children usually

sought others as play partners and tried to enter previously established groups but were successful at gaining entry only about half of the time. Hatch (1986; in press) examined social behavior in a kindergarten peer group. Three domains of children's social goals were identified: affiliation goals -- to feel that they were connected with others, that others perceived them as worthy social interactants, and that others cared about them and wanted to do things with them; competence goals -- to feel that they were competent individuals, capable of accomplishing school tasks, and that they were recognized as members of the group which was achieving what was expected in school; and status goals -- to feel that they were superior to or more important than others, that they were able to manipulate or control the actions of others, and that they were able to assert their own status in relationship to the status of others.

Research such as that mentioned above shows that young children's creative and social development is substantial, yet incomplete. Experiences with peers in classroom settings provide oportunities for development in both areas that may be unavailable elsewhere. It is important to improve understandings of the processes of peer interactions in these settings.

This paper is a report of findings from a study conducted in a preschool that was initially funded as a state model program. The overarching objective of the study was to produce descriptions and analyses of the creative and social behavior of selected highly original children in the context of one year's preschool experience. Four children were identified as highly original using the Starkweather Originality Test (Starkweather, 1974). Video tape, participant observation, interview, and artifact data focusing on these children were collected in order to construct the descriptions of the study.

Research Questions

The authors share an interest in early childhood education but bring dif-

ferent research perspectives and questions to the study: one author is primarily concerned with children's creative development while the other is interested in child-to-child social interaction. The research questions at the base of the "creativity" dimension of the study were: (1) Do young children identified as highly original by the Starkweather Originality Test (Starkweather) also demonstrate originality in play and products? (2) Are common patterns of play choice demonstrated by highly original children? (3) Are there similar identifiable creative characteristics among the four highly original children?

The "social" dimension of the study began with the following guiding questions: (1) Are there characteristics of "social competence" (Perry & Bussey, 1984) evident among the four children? (2) What are strategies each child uses to satisfy his/her social goals? (3) Are there common patterns of peer social behavior among the highly original children?

Research Procedures

The data of the study include: (1) thirty-five hours of video-tape divided evenly among three classroom activity centers (i.e., sand/water table, housekeeping area, and block area); (2) ninety-two hours of participant observation field notes (including notes on all video-taped activities); (3) trans-scripts from taped formal interviews with the classroom teacher, an under-graduate student assistant who worked in the classroom, and the mothers of the four target children; (4) Starkweather protocols for each child; (5) artifacts from the classroom including products of children's work, written descriptions of children's creative products and 35 mm photographs; (6) a daily log recording the activities of the four target children kept for 4 weeks by the student assistant; (7) time sampling (1 hour by 5 minute intervals) of the free-play activities of the target children kept for seven days; and (8) unobtrusive data including school records, reports, program descriptions, and material from

children's cumulative folders.

The study was begun the first week of school in the fall of 1986 and data collection in the classroom continued on a weekly basis throughout the school year, ending in June of 1987. One hour of video taping per week was completed through the year; each week, three activity centers were taped for 20 minutes. A technician handled the video tape cameras and microphones.

Participant observation field notes were recorded by one of the researchers on each of the thirty-five video tape sessions and on seven additional visits. While taking notes, the researcher sat or stood near the activity being observed, wrote as detailed notes as possible during observations, then "filled in" notes as soon as possible after leaving the research scene. These notes were typed into research protocols. During the analysis phase of the research, video tape data involving the target children were examined to improve the depth and accuracy of the protocols.

Informal interview data were included with field notes. Taped formal interviews were conducted by one or both of the researchers near the conclusion of the school year.

Each child in the preschool class, except one who refused, was administered the Starkweather by one of the researchers. Notes were also taken by a researcher detailing creative products made by all the children. The four students in the class who scored above 30 (out of a possible 40 different responses) on the Starkweather were identified as the most original children in the group. One researcher recorded observations of each of the target children individually for 2 school days. Also during a 4 week period, a student assistant kept a log detailing the activities of these four children. A time sampling of free play activities that each target child of interest participated in for an hour, by 5 minute intervals, was recorded for 7 school days by one

researcher.

Analysis of the qualitative data was guided by the Spradley (1980) Developmental Research Sequence. Patterns of classroom behavior were identified inductively using domain and taxonomic analysis procedures. Where data were analyzed using a priori categories (e.g., characteristics of social competence) typological procedures described by Goetz and LeCompte (1984) were used.

The Starkweather was scored according to directions given by E.K. Starkweather in her November, 1974 revised manuscript entitled Starkweather Originality Test For Young Children. The time sampling results were averaged for each child to find how many different play settings they used per day and the percentage of total time each one spent in each different play setting.

Setting and Participants

The study was conducted in a preschool classroom housed in a district administration building that had previously been an elementary school. The classroom was a fully equipped primary room with sufficient space for the preschool program. The preschool was in its second year of operation having been established as a model and funded with a grant from the Department of Education of the midwestern state in which the study was done.

The program was designed using a "whole child" approach and taking into account the developmental needs and abilities of 3, 4, and 5-year-old children. A variety of learning centers and interest areas were set up in the classroom including: reading/language arts, blocks, housekeeping, manipulatives, woodworking, science, art, and sand/water play. In addition, the school gymnasium and an outdoor play area were used for large muscle development. Children selected activities while the teacher (and other adults, usually including two parent volunteers and two university education students) circulated

asking and answering questions.

The 24 children in the Monday, Wednesday, and Friday morning session of the preschool were the peer group of the study. Parents brought their children to the preschool and paid a nominal tuition.

The summary data below include all of the children in the session studied (specific descriptions of the four target children will be included in the findings). Of the 24 children: 8 were boys and 16 were girls; 4 were three-year-olds, 18 were four-year-olds, and 2 were five-year-olds on the first day of the school year during which the study was done; and all 24 were white. All but one child were living with both natural parents (this child was with mother and step-father) and all parents reported graduating from high school (the average years of schooling among parents was approximately 13.5). Male parents were divided among professional, white collar, and skilled craft occupations and 17 of 24 mothers listed themselves as homemakers. All children except one had one or more siblings, while no child had more than three (the average number was 1.54). As these data indicate, the preschool served what might be termed "traditional" families in which it was likely that father worked and mother stayed home. Children came from what appeared to be stable homes that probably included the mother, father, and two or three children.

The teacher in the study was selected specifically to teach at the model preschool because of her reputation as a child-centered educator able to create environments for children that fostered exploration and development. Indeed, the teacher was especially adept at setting up learning areas, then directing children's energies based on their interests and developmental abilities. She constantly modeled prosocial behavior and encouraged children to solve their own interpersonal conflicts, offering coaching and instruction where appropriate.

Findings: Creative and Social Characteristics of Audrey, Shirley, Jack, and Gary*

Audrey

Audrey was 4 years, 11 months old when the study began. She lives with both natural parents and two siblings: a 7 year-old sister and a 3 year-old brother. Her father graduated from college (B.A.) and has a skilled craft occupation. Her mother is a high school graduate and a homemaker.

Creative Characteristics

Audrey had the highest Starkweather score in her preschool class. She gave 36 different responses out of maximum of 40. The mean score for the class was 22. The test is designed to identify the creative potential of young children by measuring their ideational fluency. The other three highly original children had scores of 3[illegible].

The dominant creative characteristic of Audrey was the elaboration she used in her drawing, painting, and craft work. Much of her representational art work centered around landscapes, people, and animals. The detail she used such as facial features, house trim, and outlining for emphasis, was noticeably more pronounced than her preschool peers. Both her teacher and the student assistant viewed Audrey as the most creative "as far as art media" and one who "adds more detail (to her artwork) than the other students." Her art work could also be symbolic.

One day she painted a large heart seated on a rocking chair. When asked about this drawing, she explained that the heart represented her and her sister having a nice time in their favorite chair. Her mother said that Audrey did not really begin drawing until the past year, after her father brought home an art pad for her. Before that her mother had never noticed any exceptional talent. Much of Audrey's free play time early in the year was spent doing independent

* All names have been changed to insure anonymity

activities at the art table or painting easel.

Indeperdence was another characteristic noted by the researchers, teacher, student assistant, and her mother. The time sampling of activities indicated that Audrey spent more time in independent activities than the other 3 highly original children. She did not seem to need the approval or attention of others. Her mother, teacher, and the student assistant all cited examples of her not being dominated by children if she was not interested in being involved in the group activity.

Audrey frequently engaged in experimentation. Her teacher noted that Audrey "is the one that experiments with painting and markers." She would use many different sized brushes to create various effects while doing a single painting. If she made a mistake, she would "fix it" rather than start over. Once she accidentally splashed some paint above a rock in a landscape. After contemplating what to do for some time, she made the rock bigger with the same color paint as the splash, then used a dark color over that to make it look like a boulder. She would also experiment with new objects that had been added to the play setting. On a day when soap suds had been added to the water table, Audrey used many more objects than the other three children at the table. She stayed "on task" with this activity for over 20 minutes, observing her objects very closely, but also observing what the others were doing.

Observation was another characteristic that Audrey displayed. She demonstrated "on-looker" behavior (Parten, 1932) frequently in the classroom. Many times she was noticed "standing and watching others" as they entered a new play area, painted, or worked at the art table. She seemed interested in what others were doing and after a period of time would enter the learning area or use the object she had been observing. One example of this behavior noted by a researcher was at the art table where Audrey observed another peer and the stu-

dent assistant using a hole puncher. She closely watched how it was used for approximately five minutes, then picked up another hole puncher and started using it herself. Her mother mentioned that "she is an observer. She does not step right in. She'll stand back and watch."

The teacher and student assistant also noticed that Audrey could entertain herself for long periods of time. Audrey's mother recalled times when she would notice her daughter doing something as simple as digging in the ground for bugs for a long time and wonder what she could be thinking about. One of the researchers also noticed her spending much time "on task" to complete an activity or some artwork. Of the four target children, Audrey made the fewest learning area changes during the time sampling. Audrey was observed spending over 20 minutes putting clothes on a doll and adding detail to a painting, even after being told by a parent how nice it looked and being asked if she was finished. Therefore, persistence seems to be another quality that Audrey has.

In summary, Audrey exhibited the highest Starkweather originality score in her class. Her creativity seems to be displayed most noticeably in her highly elaborate art work. She is an independent child that spends much time in observation, experimentation, and "on-task" behavior when interested by activities, objects, or people.

Social Characteristics

The most striking social characteristic observed in Audrey was her reluctance to join previously established groups. If she was involved in the initial formation of groups, she participated in group decision-making and on two occasions directed action in the group; but when groups were already formed, she would be seen standing on the sidelines with her eyes to the floor waiting for

an invitation to join that most often did not come. On only two occasions did she try actively to enter established groups (both during the final weeks of the study) and when these attempts failed to gain her entry into the groups, she gave up aft.. one try.

Among the four target students, Audrey appeared least frequently in our data. During our taping sessions, she selected blocks only once, housekeeping only three times, and sand/water only four times. On tape, she was observed playing with only nine different children (Gary, described later, interacted with all twenty-four students in the room). As mentioned above, Audrey favored working on independent classroom activities (e.g., painting and drawing) far more than any of her highly original peers. When Audrey did choose to play with other children, she almost always played with girls rather than boys. The child she played with most often during observations was Charlotte, one of the three-year-olds and probably the most passive child in the classroom.

Audrey was very content playing or working by herself in the classroom. This quality was evident in the observation and interview data. In their interviews, both the teacher and student assistant characterized Audrey as "a loner" and as "a quiet child." The teacher observed that Audrey had become more involved in group activities as the year progressed, explaining that: "Audrey was a loner for such a long time." Her mother reported that Audrey was quiet at home as well, noting that Audrey did not begin talking until almost two years and then said so little that she and her husband worried that their friends were wondering: "Doesn't Audrey every talk?"

Because she has observably advanced cognitive development, it seems unlikely that Audrey lacks the social knowledge necessary to be successful at joining her peers in play. In addition we have evidence that she was successful

in groups if she was involved in their formation. The data indicate that Audrey is basically a shy person who would rather be alone than face the possibility of being rejected in an unsuccessful attempt to enter a previously established group. An excerpt from the observation protocols serves as an example of Audrey's reluctance to join a group at the sand table, even after being told it was her turn.

> Audrey comes near the sand table after John tells her it's her turn. She stands at the edge of the table without moving, eyes fixed on the sand. After several seconds, she reaches for a toy near Jeffrey. Jeffrey says: "Oh-oooh" and looks up. She glances into Jeffrey's eyes then looks down. She stands with eyes down for 10 seconds, then (wringing her hands) she leaves the table, stands behind Jeffrey (3 feet away), and watches the children play. She stands watching for one minute, fifteen seconds. Jeffrey glances back once during this time, Audrey looks down, and he goes back to work. Audrey leaves the area.

Audrey's mother described her daughter's quietness as evidence of independence and good behavior. We agree that Audrey is capable of long periods of independent work and that she is well-behaved in school. However, we also see some of the manifestations of Audrey's quietness as symptomatic of introversion that may be linked to social adjustment problems later on. Leary (1983, p. 20) defines introversion as "a preference for solitary rather than gregarious activities." It is neither possible nor important to make a discrete diagnosis of social maladjustment from this analysis. What is important is the understanding that although Audrey is comfortable being alone, she is sometimes alone when she would rather be interacting with her peers.

Shirley

Shirley was 4 years, 7 months old when the study began. She lives with both natural parents and a 3 year old brother. Both parents are college graduates (B.S.). The father is a sales engineer. The mother listed her present occupa-

tion as a homemaker, but she has taught elementary school in the past and is a parent volunteer at the preschool.

Creative Characteristics

Shirley's score of 31 placed her second in scoring on the Starkweather. The two boys to be mentioned later, Jack and Gary, also had scores of 31. Shirley's score indicates that she has creative potential that is identified by the generation of a large number of ideas.

Shirley's creativity seems to be more generalized that the other three target children. As the student assistant said, it is harder "to pin down a creative outlet for her" than the others. She was good at many things and involved in many different learning areas. In fact, she participated in the greatest number of different learning areas per day and the most learning areas totally for the seven days of time sampling. Two terms that characterize her classroom behavior are fluency and flexibility. "She tries all the learning areas," "thinks of many things to do," and "is willing to try new things and is flexible to new ideas" according to her teacher, her mother, and the student assistant.

Her teacher thought that Shirley specialized in the construction of three-dimensional "arts and crafts" products. Many times these products would be built of household scraps such as egg cartons, construction paper, and yarn. Her mother, noticing similar activities at home, commented, "she gets out her markers and her scissors and tape and she is creating. She is really into arts and crafts kind of things. She does a lot of that now."

As with Audrey, independence and persistence are characteristic of Shirley's behavior. The student assistant reported that Shirley was "content to do things on her own." Her mother agreed, noticing that she can keep involved

in things without being directed, by stating "She is always busy. She doesn't say 'I don't know what to do.' She just automatically goes and finds something to do." Although the time sampling demonstrated she changed activities frequently, it was also noted by the researcher and the student assistant that some days she would spend long periods of time in one area if interested in that activity.

Another characteristic mentioned by her mother, the teacher, and the student assistant was her intelligence; intelligence in the sense of thinking skills or "kindergarten abilities" such as counting, naming letters, recognizing shapes, and reading words. The student assistant believed Shirley's explanation to the question of why our hands have lines in them ("to make it easier for our hands to move") was more original and demonstrated more thinking than the common answers given by her peers ("I don't know" and "That's the way we're made").

Shirley appears to be a bright young girl who is interested in many types of activities. She is self-directed, independent, and persistent. Her one "specialty area" is making three-dimensional arts and crafts products. However, her creativity seems more generalized than the other three. Perhaps her ability to do many things well and her high involvement level in a number of activities makes it more difficult to recognize a striking creative talent in one area.

Social Characteristics

Shirley's behavior with peers is best characterized as "prosocial." Perry and Bussey (1984, p. 235) provide a good general definition: "Prosocial behavior refers simply to action that benefits other people." Young children's prosocial actions usually include sharing belongings or materials with peers, offering help to peers in need or distress, cooperating in play and work activities, and giving attention to others rather than claiming it for themselves.

The observation data are filled with examples of Shirley helping others, paying attention to others, complying with the requests of others, and reminding others of classroom rules. Further, there were virtually no examples of Shirley being aggressive or selfish. She appeared constantly to have a smile on her face and a very pleasant look in her eyes. In the interaction below (which involved both highly original boys in this analysis), Shirley volunteers assistance and materials to Jack, makes a potentially uncomfortable situation with Gary into a fun experience, and complies with Jack's demands.

> In the block area, Gary and Jack have pieced together several plastic rods to make swords. Shirley comes into the area and begins assembling a rod. When completed, she offers the rod to Jack who takes it. As Gary picks up his rod, it gets stuck between Shirley's legs, lifting her dress. Gary looks up, Shirley giggles, and they share a laugh and warm eye contact. Gary extracts his sword and continues sword fighting with Jack. A piece of Jack's sword falls to the rug near Shirley and Jack demands: "Gimme that!" He repeats "Gimme that!" eight times. Shirley stops, hands Jack the piece, and goes back to her independent play.

Shirley was adept at cooperative play, yet balanced her classroom time between social and independent activities. She appeared frequently in our taped data (blocks six times; housekeeping seven times; and sand/water three times). She played with fourteen different partners, preferring girls (with the exception of Gary) over boys, and selecting Joni (a girl of her approximate age) most frequently. She was comfortable playing alone or working on independent projects such as painting or coloring.

It is difficult to speculate on the breadth of Shirley's social knowledge. She was very successful at gaining entry into groups even though she did not demonstrate a well-developed repertoire of entry strategies. She typically gained invitations to join groups by just standing nearby, smiling, and making pleasant eye contact. In play groups, she shared in group decision-making with her play partners and took her turn at being directive. It is worth noting that

even when she directed the activity of others, she maintained her pleasant demeanor and even explained the reasons for her directions.

The teacher, student assistant, and her mother independently described Shirley as "friendly" and "nice." Both the teacher and the student assistant used the term "prosocial" in reference to her behavior with peers. The teacher commented: "You know, I really didn't hear Shirley's name mentioned when someone would say, 'Someone hit me' or 'Someone did something I didn't like';" and the student assistant characterized Shirley as "real agreeable." We see Shirley as very successful in her peer group. She is capable of active participation in cooperative play, is content to play or work alone, and is able to move in and out of groups and activities almost at will. She is popular with adults and children and uses her pleasant personality to influence others and accomplish her social objectives. Indeed, Shirley could serve as a model of the child described by Moore (1967, pp. 244-245) to synthesize research on popular preschool children.

> She presents a picture of easy-going good will, she is cooperative with both adults and peers, and is prone to use a preponderance of positive, friendly behavior. She is likely to be an active participant in associative play with her companions and is able to give nurturance, approval, and deference to them as well as elicit these things from them.

Jack

Jack was 4 years and 4 months old when the study began. He lives with both natural parents and a 2 year-old brother. He has two step-brothers, age 10 and 13, who are in the home frequently, but not daily. Both parents are high school graduates. The father completed two years of higher education and is a self-employed businessman. The mother listed her occupation as a homemaker.

Creative Characteristics

Jack scored 31 out of a possible 40 on the Starkweather. Such a score demonstrates a high level of ideational fluency and creative potential. Only Audrey had a higher originality score.

The first words Jack's mother used to characterize him were independent and strong-willed. These characteristics were also observed by others. The teacher and student assistant noticed that Jack "would do his own thing" and change activities even when his friends were engaged in play they wanted him to continue. His most frequent choice during free play was block building, but late in the school year, Jack opted to use a new phone booth set up in the housekeeping area over the urging of his friends to go to the block area. If an activity was not to his liking and was not being modified to suit him, he would leave the area and find something else to do.

Many times, however, Jack was able to persuade his peers to do things his way. In the classroom, Jack used his understanding of what certain peers wanted to influence them. Once, in competition for the companionship of Grace P., Jack and Gary bargained to have her play in different learning areas. Gary offered gifts of plastic flowers and birds. Jack offered power; he said he would make her princess of his block castle and a new "Princess Grace" was crowned. His teacher thought Jack was able to get peers to do his will by rationalizing situations for them, such as saying, "Your garage looks like my car would fit in it, but my buildings can't be used that way." Peers tended to accept his reasoning.

Jack would also be aggressive if his persuasions did not work and he did not feel like engaging in a different activity. A number of times, he was observed pushing, shoving, or lightly slapping others in the block area and on the rug during early sharing time. The teacher suggested that his creativity

may account for some of this disruptive behavior. She saw him wanting "to try his own ideas, to move on, to advance forth .... not sit and listen to someone else's opinion."

Jack was characterized as a "quick learner" by his mother. She recalled being amazed at his ability to do difficult puzzles, count to 140, and spell his name on the computer at an early age. His teacher labelled him as "especially bright." Researchers noticed that he knew his name was being spelled verbally during roll-taking after the teacher said "J-A" and that he was able to put a string of alphabet cars together in complete alphabetical order. He seemed to be more academically-oriented than the other three highly original children.

Like Audrey, Jack was persistent. Both the teacher and student assistant noticed that he could spend extended periods of time in activities he liked. As mentioned earlier, his favorite activity was block building. During the time sampling, he spent 70.4% of his free play time on the block area. Many times he and his friends would make elaborate block structures, then use those structures as a setting for dramatic play. This play usually centered on defending territory from intruders, real or imagined. His mother reported that Legos were one of his favorite toys and that he spent large amounts of time building with them.

The last characteristic related to Jack's creativity was his flexible thinking. He transformed different sized blocks into lasers, rifles, and walkie-talkies during play. He also instantaneously changed the wall of a castle into an organ keyboard, then pretended to play a few tunes. During such play, his peers would follow his lead in transforming common objects into needed props, but he originated the mental transformation.

Summarizing, Jack scored very high on the originality test. He displayed his creativity in elaborate block building and in the flexibility of using common objects for needed dramatic play props. He also displayed many and varied

strategies for getting his way with peers. Jack is independent, strong-willed, and sometimes aggressive. He seems to be the most academically-oriented of the four highly original children.

Social Characteristics

Jack demonstrated the most sophisticated social development of the four target children. He was expert in adjusting his social behavior in response to changes in contexts and play partners. He was observed using a complex array of strategies to accomplish his social goals. On the negative side, Jack was also observed having more conflicts, behaving more aggressively, and being more contentious than the other target children.

Jack appeared frequently in our taped data. He spent large amounts of time in the block and sand/water areas (ten and seven appearances respectively), while visiting the housekeeping area only twice during taping sessions. He played with sixteen different play partners, usually selecting boys for extended play periods. His preferred playmate was Patrick, one of the oldest and most dominant boys in the group. Jack had conflicts with both boys and girls. Although he had fewer with Patrick than with others, Jack had conflicts with frequently chosen partners as well as occasional playmates. Jack spent virtually all of his classroom time in a group activity center as opposed to working alone at painting, puzzles, or coloring. He sometimes chose to play alone in the block area, but close examination showed that playing alone was frequently a strategy designed to punish a child with whom Jack had just been in conflict; i.e., "I'm not playin' with you."

Jack demonstrated an exceptionally well-developed collection of entry strategies and was very persistent in using his skills to enter groups. On one occasion, when he wanted to join Grace P. who was playing with a new toy at the

block center, he used nine different strategic moves to gain access, ranging from simple requests ("Can I play with you?") through denials ("When you say no, you don't mean me do you?") and threats ("I'm gonna do something and not let you do it either.") to outright begging ("Please let me play with you, please!"). In this situation and in most others observed, Jack was successful in gaining entry. In addition to a complex repertoire of entry strategies, Jack demonstrated social skill and knowledge that were well advanced compared to his classmates and to other young children. For example, he used clear exit markers when leaving peer interactions on four occasions and twice used adult-like apologies with peers. Such social moves are seldom observed among kindergarten children who are at least one year older than Jack (Hatch, 1987). Further, Jack was able to adjust his own social behavior to match the situation at hand and the behavior of his play partners. He was observed sharing interactions with others using nothing but automobile sounds and growling, he participated in parallel play situations in which children played near one another and described their own behavior without making social contact, and he contributed in cooperative play situations when others were communicating ideas back and forth (Parten, 1932).

In spite of his advanced social skill, Jack was often involved in teasing, aggressive, or disruptive activity with peers. A frequency count indicated that of eighty-four taped interactions involving Jack, thirty-six (42.9%) included peer conflicts. Jack's mother characterized him as "independent, strong-willed, sensitive, mature, and flexible" and his teacher reported that he was "sometimes disruptive" and that "he is one that can manipulate people to get what he wants."

We agree that Jack is manipulative and believe the disruptions he causes are tied to his need to dominate interactions with peers. It was very important

to Jack that he demorstrate his superior status in the peer group by using coersive, aggressive, and dominating kinds of behavior. Hatch (in press) observed that negotiating social power was normal behavior in a kindergarten peer group It is interesting to note that Jack's mother reported that he is antagonistic with play partners his age or younger, but that he is not aggressive with older boys. It may be that Jack's preoccupation with social influence and power is another evidence of his advanced awareness of the dynamics of face-to-face interaction.

Gary

Gary was 4 years and 8 months old when the study began. He is an only child who lives with his natural parents. Both parents are high school graduates. The father works as a laborer and the mother is a mail carrier. Gary takes medication twice a day to control epilepsy. His last seizure, a very severe one that hospitalized him, happened in November, 1985 (10 months prior to the beginning of the study). Since that time, no further symptoms have occurred.

Creative Characteristics

Gary also had a score of 31 out of a possible 40 on the Starkweather, signifying high ideational fluency and creative potential. His imaginative role playing is a characteristic that was easily recognizable. Imagination was the first characteristic of Gary's that came to his mother's mind during her interview. She stated that one of Gary's favorite pastimes was "pretending" and that much imaginative play, including imaginary friends, went on at home. His favorite learning area at the preschool was the housekeeping area where many props are available for dramatic play. During the time-sampling, Gary was in the housekeeping area 51.2% of the time. The student assistant noticed that "his creativity comes out in role playing--being a doctor, a dog, a baby, a

ghost. He's been all these things." His teacher sensed a true enjoyment of dramatic play in Gary.

Gary used creative dramatics to get attention and for social interaction. His teacher noticed that he used his imagination to "get a number of children involved in his play." She observed that Gary tended to assign roles to other people before and during dramatic play. Attention-getting was necessary so that peers would focus on his requests. The student assistant noticed that Gary,

> had a way of getting people's attention without dominating. He knew the way to get attention and to get people to act in a certain way. If he became a doctor, he put on a doctor's robe and carried a doctor's bag. Pretty soon somebody would be there to be a secretary and to be a patient. He could direct people.

Gary had a high energy level. He seemed to infect people with his enthusiasm. If he did not get someone's attention initially, he used emotionally charged words, developed a sense of urgency, or would role play an out-of-the-ordinary event. One day, while role playing a murder mystery, Gary tried to entice several boys to look for the murderer. When they did not respond to his initial invitation, he yelled, "He's coming. The murderer is coming! Hide quick!" He also used words like "Hurry! Hurry!", or "Watch out!", to gain attention. Probably the most vivid example of using imaginary play to gain attention occurred on a day Gary had not received much attention. Toward the end of the free play time, he crawled into a wooden doll cradle, curled up under a blanket, and began to make cooing and gurgling noises. Such a role was a risk, since peers could have reacted negatively. Soon, however, several girls were huddled around him, patting his head, and pretending to feed him. At the end of the free play time, six girls were paying complete attention to him.

Both his teacher and the student assistant selected Gary as one of "the most-liked children" by peers in the room. The teacher suggested that he

possesses a sensitivity about what others need or like, recalling times when Gary complimented her on "pretty shoes" or sincerely thanked her for planning a camping activity saying, "Teacher this is fun. I'm, glad you did this." The student assistant reported never seeing him involved in a confrontation. Gary's mother reinforced these observations by juoging sensitivity and thoughtfulness for others as two of his major personality traits.

Another characteristic related to Gary's creativity is elaboration in drawing and storytelling. He is not a skilled representational artist like Audrey. In fact, earlier in the year, he tried to get his teacher, mother, and better-drawing peers to do pictures for him. As his confidence grew during the year and he produced more of his own work, it was noticed that his drawing contained much detail and that when asked he was able to tell elaborate stories about his drawings.

Gary also demonstrated flexibility with dramatic play props. He had the ability to use the same props in many different ways during the course of a day's dramatic play. One example cited by the student assistant was when a small piece of luggage became a briefcase that Gary picked up hurriedly as he pretended to dash to work. This briefcase became a doctor's bag as Gary later shifted his role to a physician. He was one of the few children who freely took objects from one learning area into another, using them differently in each new area.

His teacher also saw curiosity as being a part of Gary's personality. He asked many "why" questions, especially when he did not have a clear explanation in mind for some happening (such as moving the children's mailboxes to a new location or watching water siphon through a plastic hose attached to two funnels).

Again, as mentioned about Audrey and Jack, Gary tended to be persistent and independent. He would persist at a task for long periods of time if interested, (e.g., he spent a full hour at the water table using the above mentioned funnels and tubes). He also demonstrated great persistence in our observation data when trying to originate group dramatic play. He would keep trying new alternatives until something worked for him. Although it seemed Gary loved to be with others, on occasion he would keep to himself if interested in an activity. His mother also stated that he often played alone, being an only child, and did not seem to mind it.

A sketch of Gary's characteristics would read like many lists of qualities related to creativity found in the literature. He expresses creativity through a vivid dramatic play imagination. He also adds much elaboration to his drawings and in his storytelling. He has great flexibility in his use of dramatic play props. He is a very social being; getting others involved in his play by grabbing their attention, being sensitive to their needs, and even taking personal risks. He is a highly curious child that asks many questions, is persistent in thought and action, and can display independence when personally interested in a topic.

Social Characteristics

The most salient characteristic of Gary's social behavior was his ability to generate imaginary play situations, to maintain fantasies for long periods of time, and to draw other children into his imaginative play. Gary seemed always to be at the center of a group of children involved in imaginary play. He usually served as the director of these group fantasies, assigning roles, suggesting appropriate in-role behaviors to others, directing the action, and always staying in role himself. The substance of these fantasies was wide-ranging and complex. Frequently, Gary brought separate play groups from two or

more classroom areas together into one large play group. An example of one set of interactions indicates the complexity of Gary's imaginative constructions and his ability to bring play groups together.

> [In the playhouse, Gary (in "daddy" role) is working at the computer. Jean ("mom") is helping Grace J. (their daughter) get ready to go to a wedding.] Jean to Grace: "You just can't wear them pants and that shirt to the wedding." Grace: "OK." Gary stands: "No wedding. I said 'no wedding'." Grace: "Mom, he says 'no wedding .'" Jean finishes dressing, goes to Gary: "The kids have been praying for this." Gary: "OK, It's on now. It's on."
>
> [Later, Jean and Gary have a brief confrontation over a record book in the housekeeping center and Gary moves to the phone.] Gary into the phone: "My daughter can't come to the wedding. Thank you. Bye." Grace appeals: "Mother!" and leaves. Jean uses the phone to change what Gary has said while Gary follows Grace from the center.
>
> [The children come back into the center.] Gary points at the girls: "You're slandered. You're slandered [You're grounded?]" Jean: "Gary, don't try to run our life." Gary: "I called the police. You're in trouble. I called the police and here they are." [Gary has recruited Patrick and Jack who enter the center waving blocks as if they are guns.]

Gary played most often with Patrick (Jack's preferred partner as well), but during taping sessions had interactions with every one of the twenty-four children in the class. His interactions were equally divided between boys and girls, which is an unusual pattern for young children (Perry & Bussey, 1984); and his frequent participation in the housekeeping area made him unusual among boys in his classroom group. Gary was particularly popular with the girls in the class. At least two girls (Grace J. and Mary B.) were observed holding hands with Gary, trying to kiss him or hug him, and following him around the room.

Among target children, Gary appeared in the data most frequently. He preferred to play in the group activity areas of the classroom (fifteen appearances in blocks; fourteen in housekeeping; and five at sand/water). As was noted above, he moved freely and often from center to center. Gary seemed comfortable

being alone if he was engaged in drawing or working at the manipulatives center, but he was not observed playing alone in the group activity areas.

Gary's talent for creating and maintaining imaginative situations and his willingness to move from center to center, including the housekeeping area, made him a favorite play partner among his peers. Along with this, he demonstrated considerable social knowledge and competence. He exhibited a variety of entry moves in the classroom, even though invitations to join the fantasy of the moment were used most often. In interactions with peers, he demonstrated some of the prosocial behaviors seen in Shirley, including compliance, praise, and asking permission.

When interviewed, Gary's mother exclaimed: "His imagination soars!" The teacher and student assistant both identified Gary as imaginative and able to draw others into his fantasy play. The student assistant noted his ability to stay inside imaginative situations for long periods of time and the teacher pointed out that Gary is frequently "the one who assigns the roles." It is clear that Gary is a popular play partner in his peer group mostly because of his vivid and flexible imagination; but, he has considerable social skill as well. A close look at Gary reveals a confident and socially competent little boy.

Conclusion

The four target children of this study demonstrated a high level of ideational fluency on the Starkweather. Starkweather (1974) suggests that such ability demonstrates originality in young children and a potential for creativity. Shmukler (1982) has found measured creativity to be closely related to an "inner imagination" component of her information processing model of creativity. We have evidence that all four target children had a level of inner imagination

that was greater than the rest of their peers. Shmukler suggests that inner imagination is demonstrated through expressive behavior and social competence. Expressive behavior is highly related to tested imagination, while social competence behavior is more of a separate social factor than an imaginative component.

Even though the target children had a high level of inner imagination, their expressive creative behavior was extremely varied. All of them seemed to have a "specialty area" that was a focus for their creative efforts. Audrey created beautiful representational paintings and drawings that were highly elaborate. Shirley was unusually adept at creating many and varied crafts. Jack was a master block builder and had a large number of social strategies. Gary could tell elaborate stories about detailed, roughly-drawn pictures. He also had a vivid imagination that lent itself to lengthy, intriguing, group dramatic play. So although inner imagination was a common element of these children, the creative behavior that expressed their imagination was clearly different. Inner imagination was demonstrated in widely divergent ways, individualized by each child through their play choices and their expressive behavior.

This is not to say that common characteristics were not evident across the target children. We noticed that all four children were independent, persistent, fluent with ideas, and expressively elaborate. However, each child was elaborate in "special areas." The expressive behavior of each child may have had common underlying elements but differed in regard to observable actions and products.

Within Shmukler's model, social competence is a second dimension in the output mode of young children's creativity. The four children described in the study demonstated that although they were all highly original, each had a different level of social competence and used different patterns of social behavior

to negotiate interactions with peers. In fact, the group studied is interesting because of the wide range of social behavior observed among the four. Audrey was the most original thinker in the class, yet she lacked the social assurance to enter previously established groups. Shirley used her prosocial personality to accomplish her interpersonal goals, while not demonstating a particularly diverse array of social skills. Jack had an extensive repertoire of social skills, but was frequently disposed to engaged in conflicts with his playmates. Gary used the social dimension as a vehicle for expressing his very imaginative ideas.

In summary, our findings support Shmukler's model for organizing elements of creativity in preschool children. The children examined here demonstrated their inner imagination in a wide variety of expressive and social forms. This points up the fact that understanding young children's creativity is a complex problem. The diversity of expressive and social behaviors seen among only four highly original children is evidence of the complexity involved. Studies that look closely at children's creative and social behavior in other settings are called for.

Further, the identification of children's creative potential may be more complicated than we have believed. The application of a checklist of characteristics found to be related to creativity may fail to identify some highly original children who's expressive or social behaviors are not found in the list.

Such checklists (or other identification instruments) may be good beginning places from which to examine children's creativity, but they do not seem sufficient. Creativity is a complex phenomenon, even among the very young. Complex models, like Shmukler's and careful observations, like the ones done in this study, are needed if our understandings of creativity are to be improved.

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